

## **II     Remarks**

### **A.     Preliminary Comments**

The pending Examiners Action identified claims 1–2 and 19–33 as pending in this Application. However, Applicants had introduced Claim 34 in a Preliminary Amendment filed concurrently with the filing of the Application. Accordingly, to avoid any possible confusion, Applicants are assuming that claim 34 would stand rejected, and accordingly, have canceled the claim.

New claims 35–52 are directed to a preferred embodiment of the invention disclosed in the Application in the paragraph bridging pages 10 and 11. Claims 35–52 are directed to the method for generating a mark in the top coating of paper substrates by treating the surface of at least one layer positioned below the top coating with laser energy prior to application of the top coating. Claims 35–52 set forth the additional preferred embodiment that the method is carried out so that the mark is not visible within the substrate, but only in the top coating. The method also provides the step of applying the top coating after generating the mark. Accordingly, in Applicants' claimed method, the mark becomes visible *not* when the surface is treated with laser energy but becomes visible in a top coating applied in a separate step. Applicants' mark is not visible in the substrate, but only in the top coating. Applicants' claimed process differs from conventional watermark methods which aim at visualizing, *i.e.*, making the mark visible within the paper substrate.

### **B.     Applicants' Response to Claim Rejections Under 35 U.S.C. § 112**

In the Action, the Examiner rejected claims 19 and 23 under 35 U.S.C. § 112, second paragraph, as being indefinite, for failing to particularly point out and distinctly claim the

subject matter which Applicants regard as their invention. Applicants' new claims 35–52 do not include the subject matter that was the reason for the rejection of claims 19 and 23. Accordingly, the basis for rejection of claims 19 and 23 should not be applicable to claims 35–52.

**C. Applicants' Response to Claim Rejections Under 35 U.S.C. § 102**

In the Action, the Examiner rejected Claims 1, 2, 19, 20, 21, 24, 27–29, 31 and 33 under 35 U.S.C. § 102(b) as anticipated by United States Patent No. 4,740,269 to Berger et al. (henceforth the “Berger et al. patent”).

In support of this rejection, the Examiner made the following statement:

Berger et al disclose a method for generating a mark comprising directing a laser beam onto a printed, unprinted paper (coated or uncoated) or if desired a synthetic paper, to make at least one laser mark by partial or complete removal of a *color* layer and/or by effecting structural changes in the *fibers* of the paper, and if desired **preserving the laser mark by coating with protective material such as lacquer, color or a hardenable plastic (synthetic resin)** (See column 2, lines 19–23; column 3, lines 14–23. . . .

(Examiner's Action at page 4, lines 1–6). (*emphasis added*)

As summarized by the Examiner, Berger et al. disclose a method of forming a visible laser mark within the paper substrate and then, if desired, preserving that visible laser mark in the paper substrate **by coating with protective material such as lacquer, color or a hardenable plastic.** The Berger et al. mark appears as an embossing or rise formed in the paper surface. (*See* column 2, lines 1–107) As disclosed in the Application in the paragraph bridging pages 10 and 11, Berger et al. is directed to conventional watermark methods which aim at visualizing, *i.e.*, making the mark visible within the paper substrate. Berger et al. do not exemplify or otherwise disclose or suggest Applicants' claimed method of laser marking

of paper in which the mark is visible not within the paper substrate, but instead in a top coating added after the marking step.

Accordingly, as Berger et al. do not disclose Applicants' invention as claimed in claims 35–52, a rejection of claims 35–52 under 35 U.S.C. § 102(b) as anticipated by the Berger et al. patent is untenable and should not be made.

**D. Applicants' Response to Claim Rejections Under 35 U.S.C. § 103**

In the Action, the Examiner rejected claims 22, 25 26 and 30 under 35 U.S.C. § 103(a) as being unpatentable over the Berger et al. patent in view of United States Patent No. 5,706,106 to Monaghan (the "Monaghan patent").

In support of this rejection, the Examiner stated that

Monaghan teaches that portions of an embossed holographic imagery on a paper substrate can be covered by non-holographic images such as metal deposition layer such as aluminum for later printing (See column 6, lines 1–6) for creating a new visual effect (See column 1, lines 43–57).

(Examiner's Action at page 4, lines 20–23).

The Monaghan patent thus comprises a paper substrate with a visible "embossed holographic imagery" that can be covered by non-holographic images. Hence, Monaghan, like Berger et al., discloses a marked paper substrate. Indeed, Monaghan is the opposite of Applicants' invention. Monaghan starts with a paper substrate that contains a visible holographic imagery which is covered selectively by a top metal layer. In contrast, Applicants' claimed method comprises a paper substrate with no visible mark and a top layer in which the mark becomes visible.

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Monaghan does not exemplify, disclose or otherwise suggest to one skilled in the art an unmarked paper substrate. Accordingly, a rejection of Applicants' claims 35–52 under 35 U.S.C. § 103(a) over the Berger et al. patent in combination with the Monaghan patent is untenable and should not be made.

In the Action, the Examiner rejected claim 23 under 35 U.S.C. 103(a) as being unpatentable over the Berger et al. patent in view of United States Patent No. 5,413,629 to Yasui et al. (the "Yasui et al. patent").

In support of this rejection, the Examiner stated:

Yasui et al. teach that any printable thermosensitive substrate such as paper, plastic, plastic-coated or a metal-coated paper (See column 8, lines 49–53) can be provided with a marking information with high sensitivity and high marking density, i.e., a high contrast between a marked area and a background, by coating first the substrate with a printing ink and then treating the printed substrate with laser energy (See column 2, lines 31–38).

It would have been also obvious to one of ordinary skill in the art at the time the invention was made to have used a metal-coated paper as a paper substrate in a method of Berger et al. since Yasui et al. teach that any printable thermosensitive substrate such as paper, plastic, plastic-coated or a metal-coated paper can be provided with a marking information with high sensitivity and high marking density.

(Examiner's Action at page 5, lines 13–17).

Yasui et al. disclose a laser marking method comprising irradiating laser light on a thermosensitive color forming ink layer formed on a substrate such as paper (Column 2, lines 59–61). In other words, Yasui et al. form a color forming ink layer on a substrate such as paper and laser mark that layer. Applicants' claimed method laser marks the substrate with a mark that is only visible in a top coating added to the substrate after the laser marking. Hence, the Yasui et al. method is completely different than the method claimed by

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Applicants. For this reason, one of ordinary skill in the art cannot combine the Berger et al. disclosures and the Yasui et al. disclosures to obtain Applicants' claimed method of marking a paper substrate with a mark that is visible only in a top coating that is applied to the substrate after the laser marking. Hence, a rejection of claims 35–52 under 35 U.S.C. § 103 over the Berger et al. patent in view of the Yasui et al. patent is untenable and should not be made.

In the Action, the Examiner also rejected claim 32 under 35 U.S.C. § 103(a) as unpatentable over the Berger et al. patent in view of United States Patent No. 5,989,389 to Sandberg (the “Sandberg patent”).

In support of this rejection, the Examiner observed that although Berger et al. fail to teach that the paper for marking banknotes or checks has a weight of 40 to 400 g/m<sup>2</sup>, Sandberg teaches that a paper cotton stock having a basis weight of approximately 80 g/m<sup>3</sup> may be used for marking banknotes. (Examiner's Action page 5, line 20 to page 6, line 21).

Sandberg relates to a method of producing visible, preferably transparent or translucent, continuous strands and/or delimited fields on paper in conjunction with forming a paper web in a paper machine. Sandberg does not exemplify or otherwise disclose to one skilled in the art a method of laser marking of paper. Accordingly, for reasons set forth above, a rejection of claims 35–52 under 35 U.S.C. § 103(a) over the Berger et al. patent in view of the Sandberg patent is untenable and should not be made.

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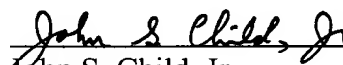
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**IV. Conclusion**

It is believed that the above constitutes a complete response under 37 C.F.R. § 1.111 and that all bases of rejection stated in the Office Action have been adequately rebutted or overcome. A Notice of Allowance in the next Office Action is, therefore, requested. The Examiner is requested to telephone the undersigned if any matter that can reasonably be expected to be resolved in a telephone conference is believed to impede the allowance of the pending claims.

Respectfully submitted,

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